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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,312	09/30/2003	Hao Pan	SLA1347 (7146.0167)	8186

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EXAMINER
DHARIA, PRABODH M

ART UNIT	PAPER NUMBER
2629	

MAIL DATE	DELIVERY MODE
03/25/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/676,312	PAN ET AL.
	Examiner	Art Unit
	PRABODH M. DHARIA	2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>28 January 2011</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-4</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-4</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>30 September 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

1.   **Status:** Please all the replies and correspondence should be addressed to examiner's new

art unit 2629. Receipt is acknowledged of papers submitted on 01-28-2011 under amendments

and request for reconsideration, which have been placed of record in the file. Claims 1-4 are

pending in this action.

Response to Amendment

2.   The amendment filed 01-28-2011 does not introduce new matter into the disclosure. The

added material is supported by the original disclosure. Applicant has amended Independent

claims 1 to overcome prior art rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liaw, Ming-

Jiun (US 20040140985 A1) in view of Sekiya et al. (US 2002/0175907 A1).

        Regarding claim 1, Liaw, Ming-Jiun (US 20040140985 A1) discloses a method of

modifying a video image (page 2, paragraphs 23-27) comprising a plurality of sequential frames

to be displayed on a display (figures 5-7 suggests receiving plurality of frames of image data and

displaying on LCD display, page 2, paragraphs 26,27); (a) receiving at least a portion of a

current frame of said video image (figures 5-7 suggests receiving plurality of frames of image

data and displaying on LCD display, page 2, paragraphs 26,27); and (b) modifying said current

frame to alternatively increase or decrease the luminance output of a portion of said display

corresponding to a pixel of said current frame, by overdriving a voltage to said portion to a

current value automatically selected (pages 1- 3, paragraphs 9-11, 22-38, please see paragraphs

30-33 does suggests automatically selecting predicted display luminance values from LUT))

based upon: (i) at least one predicted displayed luminance value of said pixel in respective ones

of at least one subsequent frame of said video image (pages 1- 3, paragraphs 9-11, 22-38, please

see paragraphs 30-33 does suggests automatically selecting predicted display luminance values

from LUT); and (ii) at least one previously displayed luminance value of said pixel in respective

ones of at least one previous frame of said video image (pages 1- 3, paragraphs 9-11, 22-38).

      However, the prior art of Liaw, Ming-Jiun (US 20040140985 A1) fails to disclose current

driving value is calculated to reach a non-equilibrium displayed luminance value in said current

frame used to predict said at least one predicted displayed luminance value of said pixel in said

at least one frame subsequent to said current frame.

      However, in the applicant's field of endeavor prior art of Sekiya et al. (US 2002/0175907

A1) current driving value is calculated to reach a non-equilibrium displayed luminance value in

said current frame used to predict said at least one predicted displayed luminance value of said

pixel in said at least one frame subsequent to said current frame (please see abstract, page 2,

paragraph, 27, suggests targeted or predicted values for current frame is calculated to predict

brightness or luminance value of pixel displayed in subsequent frame or later frame; page 3,

paragraph 51 suggests non equilibrium state being dynamic state and targeted or predicted

brightness or luminance values for pixel is calculated please also see page 6, paragraphs 62,63).

        The Prior art of Liaw, Ming-Jiun (US 20040140985 A1) provides base with method of

modifying a video image comprising a plurality of sequential frames to be displayed on a

display; (a) receiving at least a portion of a current frame of said video image; and (b) modifying

said current frame to alternatively increase or decrease the luminance output of a portion of said

display corresponding to a pixel of said current frame, by overdriving a voltage to said portion to

a current driving value automatically selected based upon: (i) at least one predicted displayed

luminance value of said pixel in respective ones of at least one frame subsequent to said current

frame of said video image; and (ii) at least one previously displayed luminance value of said

pixel in respective ones of at least one frame previous to said current frame of said video image;

in which the claimed invention can be seen as an improvement in that current driving value is

calculated to reach a non-equilibrium displayed luminance value in said current frame used to

predict said at least one predicted displayed luminance value of said pixel in said at least one

frame subsequent to said current frame is known technique disclosed by the prior art of Sekiya et

al. (US 2002/0175907 A1) and is applicable to base process. The prior art of Sekiya et al. (US

2002/0175907 A1) disclosing known technique of current driving value is calculated to reach a

non-equilibrium displayed luminance value in said current frame used to predict said at least one

predicted displayed luminance value of said pixel in said at least one frame subsequent to said

current frame would have been recognized by one skill in the art as applicable to base process of

Liaw, Ming-Jiun (US 20040140985 A1) and the results would have been predictable and resulted

in improve scrolling of text, dragging of icons, computer graphics (CG) animation displayed on

LCDs, as well as color shifts, blurring and trailing that may appear on moving pictures (non-

equilibrium state) and liquid crystal display device for improving the response time of the liquid

crystal display. Therefore, the claimed subject matter would have been obvious to a person

having ordinary skill in the art at the time the invention was made.

Relative to claim 2, Liaw, Ming-Jiun (US 20040140985 A1) discloses at least one

previously displayed luminance value of said pixel is stored in a respective frame buffer (page 2,

paragraph 27).

Relative to claim 3, Sekiya et al. (US 2002/0175907 A1) a first said previously displayed

luminance value is at a state where liquid crystal material associated with said pixel of said

display is not at an equilibrium state, and where a second said previously displayed luminance

value is at a state where said liquid crystal material associated with said pixel is at an equilibrium

state, and where said second said previously displayed luminance value is from the earliest said

at least one frame, upon which selection of said current value is based (please see abstract, page

2, paragraph, 27, page 3, paragraph 51, please also see pages 5 and 6, paragraphs 51-66 Liquid

material is starting at non-equilibrium state and reaches equilibrium state and brightness of pixel

predicted or targeted values are achieved one frame later because delay from liquid crystal or

pixel capacitor charging).

Relative to claim 4, Liaw, Ming-Jiun (US 20040140985 A1) discloses a method of modifying a

video image (page 2, paragraphs 23-27) comprising a plurality of sequential frames to be

displayed on a display (figures 5-7 suggests receiving plurality of frames of image data and

displaying on LCD display, page 2, paragraphs 26,27); (a) receiving at least a portion of a

current frame of said video image (figures 5-7 suggests receiving plurality of frames of image

data and displaying on LCD display, page 2, paragraphs 26,27); and (b) modifying said current

frame to alternatively increase or decrease the luminance output of a portion of said display

corresponding to a pixel of said current frame, by overdriving a voltage to said portion to a

current value automatically selected (pages 1- 3, paragraphs 9-11, 22-38, please see paragraphs

30-33 does suggests automatically selecting predicted display luminance values from LUT))

based upon: (i) at least one predicted displayed luminance value of said pixel in respective ones

of at least one subsequent frame of said video image (pages 1- 3, paragraphs 9-11, 22-38, please

see paragraphs 30-33 does suggests automatically selecting predicted display luminance values

from LUT); and (ii) at least one previously displayed luminance value of said pixel in respective

ones of at least one previous frame of said video image (pages 1- 3, paragraphs 9-11, 22-38).

      However, the prior art of Liaw, Ming-Jiun (US 20040140985 A1) fails to a first said

previously displayed luminance value is at a state where liquid crystal material associated with

said pixel of said display is not at an equilibrium state, and where a second said previously

displayed luminance value is at a state where said liquid crystal material associated with said

pixel is at an equilibrium state, and where said second said previously displayed luminance value

is from the earliest said at least one frame, upon which selection of said current value is based

      However, in the applicant's field of endeavor prior art of Sekiya et al. (US 2002/0175907

A1) a first said previously displayed luminance value is at a state where liquid crystal material

associated with said pixel of said display is not at an equilibrium state, and where a second said

previously displayed luminance value is at a state where said liquid crystal material associated

with said pixel is at an equilibrium state, and where said second said previously displayed

luminance value (please see abstract, page 2, paragraph, 27, page 3, paragraph 51, please also

see pages 5 and 6, paragraphs 51-66 Liquid material is starting at non-equilibrium state and

reaches equilibrium state and brightness of pixel predicted or targeted values are achieved one

frame later because delay from liquid crystal or pixel capacitor charging).

      The Prior art of Liaw, Ming-Jiun (US 20040140985 A1) provides base with method of

modifying a video image comprising a plurality of sequential frames to be displayed on a

display; (a) receiving at least a portion of a current frame of said video image; and (b) modifying

said current frame to alternatively increase or decrease the luminance output of a portion of said

display corresponding to a pixel of said current frame, by overdriving a voltage to said portion to

a current driving value automatically selected based upon: (i) at least one predicted displayed

luminance value of said pixel in respective ones of at least one frame subsequent to said current

frame of said video image; and (ii) at least one previously displayed luminance value of said

pixel in respective ones of at least one frame previous to said current frame of said video image;

in which the claimed invention can be seen as an improvement in that a first said previously

displayed luminance value is at a state where liquid crystal material associated with said pixel of

said display is not at an equilibrium state, and where a second said previously displayed

luminance value is at a state where said liquid crystal material associated with said pixel is at an

equilibrium state, and where said second said previously displayed luminance value is known

technique disclosed by the prior art of Sekiya et al. (US 2002/0175907 A1) and is applicable to

base process. The prior art of Sekiya et al. (US 2002/0175907 A1) disclosing known technique

of a first said previously displayed luminance value is at a state where liquid crystal material

associated with said pixel of said display is not at an equilibrium state, and where a second said

previously displayed luminance value is at a state where said liquid crystal material associated

with said pixel is at an equilibrium state, and where said second said previously displayed

luminance value would have been recognized by one skill in the art as applicable to base process

of Liaw, Ming-Jiun (US 20040140985 A1) and the results would have been predictable and

resulted in improve scrolling of text, dragging of icons, computer graphics (CG) animation

displayed on LCDs, as well as color shifts, blurring and trailing that may appear on moving

pictures (non-equilibrium state) and liquid crystal display device for improving the response time

of the liquid crystal display. Therefore, the claimed subject matter would have been obvious to a

person having ordinary skill in the art at the time the invention was made.

Response to Arguments

5.   Applicant's arguments, see remark, filed 01-28-2011, with respect to the rejection(s) of

claim(s) 1 and 2 under 35 U.S.C. 102(e) as being anticipated by Liaw, Ming-Jiun (US

20040140985 A1) have been fully considered and are persuasive. Therefore, the rejection has

been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in

view of Sekiya et al. (US 2002/0175907 A1).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. Please review the prior art cited on PTO 892's.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to PRABODH M. DHARIA whose telephone number is (571)272-

7668. The examiner can normally be reached on M-F 8-30AM to 5PM.

8.   The fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

9.   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

/Prabodh M Dharia/

Primary Examiner,

Art Unit 2629

March 23, 2011